

Applicant(s): Mark A. Dombroskovet al.

Examiner:

Evelyn Mei Huang

Serial No:

10/649,227

Art Unit:

1625

Filed:

August 27, 2003

**Docket:** 

17474 (PC25308A)

For:

ALKYL-[4-(DIFLUOROPHENYL)-

OXAZOL-5-YL]-TRIAZOLO-

**PYRIDINES** 

**Confirmation No.: 5400** 

Commissioner for Patents United States Patent and Trademark Office P.O. Box 1450 Alexandria, Virginia 22313-1450

# <u>UNDER 37 C.F.R. §1.132</u>

Sir:

- I, Kim F. McClure, hereby declare as follows:
- 1. I am an applicant of U.S. Application Serial No.10/649,227, filed August 27, 2003, which claims the benefit of U.S. Serial No. 60/407,088, filed August 30, 2002;
- 2. I hold a Doctorate Degree in the field of Chemistry from Yale University which I obtained in 1993;
- 3. I have been employed at Pfizer, Inc. since 1995, and my current position is Senior Principal Scientist;
  - 4. A true and correct copy of my Curriculum Vitae is enclosed herein as Exhibit A;

- 5. I have reviewed the above-identified application (hereinafter referred to as '227 application), and U.S. Patent No. 6,696,464 B2 (hereinafter referred to as the '464 patent) and I am familiar with the subject matter therein;
- 6. It is my scientific opinion that the two closest structural compounds between the '227 application and the '464 patent are 6-[4-(4-Fluoro-phenyl)-oxazol-5-yl]-3-isopropyl-[1,2,4]triazolo[4,3-a]pyridine (Example 12) in the '464 patent and 3-tert-Butyl-6-[4-(2,4-difluoro-phenyl)-oxazol-5-yl]-[1,2,4]triazolo[4,3-a]pyridine (Example 4) in the '227 application;
- 7. 6-[4-(4-Fluoro-phenyl)-oxazol-5-yl]-3-isopropyl-[1,2,4]triazolo[4,3-a]pyridine has a human whole blood TNF alpha IC<sub>50</sub> value of 685 nM;
- 8. 3-tert-Butyl-6-[4-(2,4-difluoro-phenyl)-oxazol-5-yl]-[1,2,4]triazolo[4,3-a]pyridine has a human whole blood TNF alpha IC<sub>50</sub> value of 76 nM;
- 9. It is my scientific opinion that the human whole blood TNF alpha IC<sub>50</sub> value of 76 nM for 3-tert-Butyl-6-[4-(2,4-difluoro-phenyl)-oxazol-5-yl]-[1,2,4]triazolo[4,3-a]pyridine shows that this compound is a surprisingly and unexpectedly better TNF alpha inhibitor than 6-[4-(4-Fluoro-phenyl)-oxazol-5-yl]-3-isopropyl-[1,2,4]triazolo[4,3-a]pyridine, which has a human whole blood TNF alpha IC<sub>50</sub> of 685 nM;
- 10. I declare that all statements made herein of my own knowledge are true and that all statements are believed to be true; and that those statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By: <u>Vim F McClure</u>
Dr. Kim F. McClure

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#### EDUCATION

B.S. Chemistry, May 1988. University of California, Berkeley

Ph. D. Chemistry, December 1993. Yale University

#### **EXPERIENCE**

Pfizer Inc., 1995-present. Senior Principal Scientist.

Post-doctoral Research Fellow (NIH), 1993-present, M.I.T. Advisor: Daniel S. Kemp — Synthesis and study of  $\alpha$ -helix templates and their peptide conjugates

Graduate Research Fellow, 1988–1993, Yale University. Advisor: Samuel J. Danishefsky — Synthesis of FR-900482 congeners. Solid-phase carbohydrate synthesis using glycals.

Undergraduate research, 1987-88, U. C. Berkeley. Advisor: Clayton H. Heathcock — Studies on zinc enolates. Synthesis of Daphnilactone A

Teaching Assistant, 1987–1990, Yale University (4 semesters); U.C.Berkeley (2 semesters)

— Introductory through graduate organic chemistry courses

#### AWARDS

National Institutes of Health post-doctoral fellowship (1993-present)

Samuel K. Bushnell graduate fellowship (1989-1990)

Department of Education graduate fellowship (1990-1991)RFS

#### **PULICATIONS**

Reiter. Lawrence A.; Robinson, Ralph P.; McClure, Kim F.; Jones, Christopher S.; Reese, Matthew R.; Mitchell, Peter G.; Otterness, Ivan G.; Bliven, Marcia L.; Liras, Jennifer; Cortina, Santo R.; Donahue, Kathleen M.; Eskra, James D.; Griffiths, Richard J.; Lame, Mary E.; Lopez-Anaya, Arturo; Martinelli, Gary J.; McGahee, Shunda M.; Yocum, Sue A.; Lopresti-Morrow, Lori L.; Tobiassen, Lisa M.; Vaughn-Bowser, Marcie L. Pyran-containing sulfonamide hydroxamic acids: potent MMP inhibitors that spare MMP-1. Bioorganic & Medicinal Chemistry Letters 2004, 14, 3389-3395.

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McClure, K. F.; Axt, M. Z. Bioorg. & Med. Chem. Lett. 1998, 8, 143. Alkylation of Succinates: Synthesis of Ro 32-3555.

Groebke, K.; Renold, P.; Tsang, K. Y.; Allen, T. J.; McClure, K. F.; Kemp, D. S. *Proc. Natl. Acad. Sci. U.S.A.* 1996, 93, 4025. Template-nucleated Alanine-Lysine helixes are Stabilized by Position-dependent Interactions Between the Lysine Side Chain and the Helix Barrel.

Cammers-Goodwin, A.; Allen, T. J.; Oslick, S. L.; McClure, K. F.; Lee, J. H.; Kemp, D. S. J. Am. Chem. Soc. 1996, 118, 3082. Mechanism of Stabilization of Helical Conformations of Polypeptides by Water Containing Trifluroethanol.

Randolph, J. T.; McClure, K. F.; Danishefsky, S. J. J. Am. Chem. Soc. 1995, 117, 5712. Major Simplifications in Oligosaccharide Syntheses Arising From A Solid-Phase Based Method: An Application to the Synthesis of the Lewis b Antigen.

McClure, K. F.; Renold, P.; Kemp, D. S. J. Org. Chem. 1995, 60, 454. An Improved Synthesis of a Template for α-Helix Formation.

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Benbow, J. W.; McClure, K. F.; Danishefsky, S. J. J. Am. Chem. Soc. 1993, 115, 12305. Intramolecular Cycloaddition Reactions of Dienyl Nitroso Compounds: Application to the Synthesis of Mitomycin K.

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Ruggeri, R. B.; McClure, K. F; Heathcock, C. H. J. Am. Chem. Soc. 1989, 111, 1530. Total Synthesis of (±)-Daphnilactone A: A Novel Fragmentation Reaction.

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#### PATENTS AND AND PATENT APPLICATIONS

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Mcclure, Kim Francis; Robinson, Ralph Pelton, Jr. Preparation of 5-arylsulfonylaminocyclopentadioxole-5-hydroxamates as inhibitors of zinc metalloendo peptidases. EP 1041072 A1

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McClure, Kim Francis; Noe, Mark Carl; Letavic, Michael Anthony; Chupak, Louis Stanley. Preparation of hydroxy pipecolate hydroxamic acid derivatives as MMP inhibitors. WO 0009485 A1

McClure, Kim Francis: Lopresti-Morrow, Lori Lynn; Mitchell, Peter Geoffrey; Reeves, Lisa Marie; Reiter, Lawrence Alan; Robinson, Ralph Pelton; Yocum, Sue Ann. Matrix metalloprotease (MMP)-13 selective

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inhibitors for treatment of arthritis deformans and other MMP-related diseases. JP 11199512 A2

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Robinson, Ralph Pelton, Jr.; McClure, Kim Francis. Preparation of arylsulfonylaminoalkylhydroxamates as inhibitors of matrix metalloproteinases or tumor necrosis factor production. WO 9833768 A1

#### REFERENCES

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